REMARKS

Claims 1-139 are pending in this application. Claims 20, 45, 49, 74, 96, 99, 102, 136, and 137 have been amended to correct typographical errors. No new matter is being entered.

This amendment also provides a summary of the arguments brought forth during a telephonic interview between examiner Brittany M. Martinez, primary examiner Wayne Langel, PTO summer intern Joseph Steinbronn, and Applicants' representatives Jeffrey H. Rosedale and DaLesia Boyd on June 15, 2010.

Claim Objections

Claims 20, 45, 49, 74, 96, 99, 102, 136, and 137 were objected to based on various informalities. Appropriate corrections have been made in accordance with the examiner's requests.

Claim Rejections under 35 USC §112

Claims 98 and 99 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The limitation of claim 98 has been amended to recite "The method of claim 96," providing proper antecedent basis for the limitation of claims 98 and 99. Applicants request that this rejection be withdrawn.

Claim Rejections under 35 USC § 103

Claims 1-13, 15-18, 55-60, and 139 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious over US 2002/0028288 A1 ("Rohrbaugh"). Applicants traverse this rejection.

During the telephonic interview with the examiners, specifically discussing independent claims 1 and 55, Applicants' representatives argued that Rohrbaugh discloses a "laundry list" of surfactants and is directed to metal oxide nanoparticles (see Rohrbaugh at [0049]). Applicants' representatives also pointed out that there is only one mention of "nanotubes" in Rohrbaugh (see Rohrbaugh at [0045]). ***The examiners agreed to withdraw the rejection over Rohrbaugh*** because one of ordinary skill in the art would not have been

motivated to both – a) pick carbon nanotubes as the nanotube of Rohrbaugh and then – b) pick the claimed surfactant from the "laundry list" of surfactants disclosed by Rohrbaugh.

Applicants note that the same reasoning regarding Rohrbaugh applies to independent claims 37, 58, 61, 64, 67, 69, 74, and 139, even though they were not discussed in the telephonic interview. Therefore, Applicants request that the rejections over Rohrbaugh be withdrawn from these claims as well.

Claims 1-13, 15-18, and 55-57 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over US 5,648,523 ("Chiang").

The examiner acknowledges that Chiang discloses fullerenes, and not carbon nanotubes, stating that it would have been obvious to one of ordinary skill in the art to modify Chiang's dispersion with carbon nanotubes because they are a known type of fullerene. Applicants disagree.

The examiner relies on Chiang's disclosure in Example 2, which discloses the synthesis of water-soluble polyhydroxylated fullerene derivatives of either pure C_{60} or a mixture of C_{60} and C_{70} (Chiang, column 10, lines 30-56). However, based on the declaration from co-inventor Dr. Arjun Yodh, the current invention does not claim these polyhydroxylated fullerene derivatives.

The current invention does not claim water-soluble polyhydroxylated fullerene derivatives, as disclosed in Chiang, Example 2. For example, as stated in the current application, generally, the chemically modified carbon nanotubes (e.g., polyhydroxylated nanotubes) are less desirable because their band structures can differ from the unmodified nanotubes (see Application at [0017]).

In addition, the surface chemistry and chemical bonding of C_{60} and C_{70} is not expected to be the same as that of carbon nanotubes. For example, the chemical bonding of nanotubes is composed essentially of sp^2 bonds, whereas spherical fullerenes such as C_{60} and C_{70} also have a number of pi-bonding electrons. These pi-bonding electrons give rise to different surface and adsorption properties among carbon nanotubes and C_{60} and C_{70}. Hence, one of ordinary skill in the art would not be motivated to look to Chiang's disclosure of combining certain surfactants with C_{60}, C_{70}, or derivatives of C_{60} or C_{70} to yield any of our inventions as claimed. Applicants traverse this rejection and request that it be withdrawn.

Applicants note that the same reasoning regarding Chiang applies to independent claims 37, 58, 61, 64, 67, 69, 74, and 139, even though they were not discussed in the telephonic interview. Therefore, Applicants request that the rejections over Chiang be withdrawn from these claims as well.

Claims 1-13, 15-18, 55-60, and 139 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over US 2002/0113335 A1 ("Lobovsky") in view of Rohrbaugh. Applicants assert that for the above-stated reasons the rejections in view of Rohrbaugh are moot, and request that the rejections be withdrawn.

Claims 1-13, 15-18, and 55-57 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Lobovsky in view of Chiang. Applicants assert that for the reasons stated above, the rejections in view of Chiang are moot, and request that the rejections be withdrawn.

Claims 19-30, 35, 36, 98, and 99 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Rohrbaugh, or alternatively, Lobovsky in view of Rohrbaugh as applied to claim 1 above. Applicants assert that for the above-stated reasons the rejections in view of Rohrbaugh are moot, and request that the rejections be withdrawn.

Claims 19-30, 35, 36, 98, and 99 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Chiang or, alternatively, Lobovsky in view of Chiang as applied to claim 1 above. Applicants assert that for the above-stated reasons the rejections in view of Chiang are moot, and request that the rejections be withdrawn.

Claims 14 and 31-34 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Rohrbaugh or, alternatively, Lobovsky in view of Rohrbaugh as applied to claim 1 above, and in further view of US 6,899,947 ("Wei"). Applicants assert that for the above-stated reasons the rejections in view of Rohrbaugh are moot, and request that the rejections be withdrawn.

Claims 37-52 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Lobovsky in view of Rohrbaugh or, alternatively, in view of Chiang. Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 61-63, 69, 70, 72, 74-101, 103-109, and 124-126 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over US 2003/0122111 A1 ("Glatkowski") in view of Rohrbaugh or, alternatively, in view of Chiang. Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 64-68 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang. Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 71 and 102 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claims 69 and 74 above, and further in view of Wei. Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claim 73 stands rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 69 above, and further in view of US 7,013,708 B1 ("Cho"). Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 110 and 111 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 105 above, and further in view of US 2002/0001620 A1 ("Pienkowski"). Applicants

assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 112-122 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 75 above, and further in view of Ilmain (*Nature*). Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claim 123 stands rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 74 above, and further in view of de Heer et al. (*Science*). Applicants assert that for the above-stated reasons, the rejection in view of Rohrbaugh and Chiang is moot, and request that the rejection be withdrawn.

Claims 127-133 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 126 above, and further in view of US 7,001,556 B1 ("Shambaugh"). Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 134-136 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 75 above, and further in view of Smith et al. (*Applied Physics Letters*). Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Claims 137 and 138 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over Glatkowski in view of Rohrbaugh or, alternatively, in view of Chiang as applied to claim 74 above, and further in view of WO 01/92381 A1 ("Barrera"). Applicants assert that for the above-stated reasons, the rejections in view of Rohrbaugh and Chiang are moot, and request that the rejections be withdrawn.

Conclusion

Applicants believe the foregoing constitutes a complete and full response to the Office Action of record. Applicants believe that claims 1-139 are patentable over the cited art, and the application is in condition for allowance. Favorable reconsideration is respectfully requested. Applicants urge the examiner to contact their representative signed below with any questions in order to effectuate a quick allowance of the claims.

The Commissioner is hereby authorized to charge any fee deficiency, charge any additional fees, or credit any overpayment of fees, associated with this application in connection with this filing, or any future filing, submitted to the U.S. Patent and Trademark Office during the pendency of this application, to Deposit Account No. 23-3050.

Date: June 22, 2010

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